great mass of masonry in the substructions, and it is quite consistent with what is known of the constructive skill of the architects of the thirteenth century, when they thought it worth while to exert it, to suppose that stones of such large size may have been laid down, that they may continue to support the superstructure in the manner of corbels, but it is not easy either to ascertain the fact, or to apply the operation of *under-pinning*, should it prove to be requisite. To obtain access to the foundations, it would be necessary to empty the basin, and discharge the water as it rises; and in order to effect this, the front of the basin must be taken down, and a channel as deep as the bottom of the basin cut through the outer reservoir, depriving the mill of its moving power as long as the repairs might be in hand. With so formidable an undertaking to contend with, it is cause less of surprise than of regret that the late repairs should have been restricted to the more accessible portions of the building, and that there should be no measures in prospect for its permanent security."

It occurs to us, that hydraulic concrete might be effectively employed, at all events to prevent further injury to the foundations, cheaply and without difficulty.

LABOUR AND MATERIALS IN SOUTH AUSTRALIA.

The *Adelaide Observer*, in order to shew that South Australia "should be pre-eminently the country of the industrious man's choice," presents a list of particulars relative to the wages of labour and the price of materials on 7th February last, from which we extract what is more particularly interesting to our readers:—

Bricklayers are generally in full employment at 5s. to 6s. per day, or in task work at the rate of 10d. to 1s. per yard for nine-inch brickwork, labour only; and scaffolding not included.

Cabinet-makers.—There are few journeymen required at present, the lesser masters working for themselves, being the principal operatives. The few persons employed on task work jobs earn from 5s. to 6s. per day.

Carpenters' wages 5s. 6d. to 7s. per day, according to ability, the highest quotation being for skilled as well as industrious hands. One report with which we have been favoured states, "a few unemployed," but as we have sought for such in vain, we conclude our informant should have written, "a few keeping holiday."

Masons are well engaged at 5s. to 6s. per day.

Plasterers experience no lack of employment; but are generally engaged in task work, for which they often receive as much as 8d. to 1s. per yard (super.) for three coat-work, including ceiling. This price, which is for labour only, and does not include any thing but journeymen's task prices, should (we are told) enable a steady workman of this class to earn 10s. a day beside paying his labourer.

Painters' wages, 4s. to 5s. per day. Present hands not so much in request as to offer inducements for any influx, either of prime workmen or daubers.

Plumbers.—No more wanted at present.

Smiths are generally well employed at 25s. to 30s. weekly. The German blacksmiths, by the George Washington, found a choice of employers.

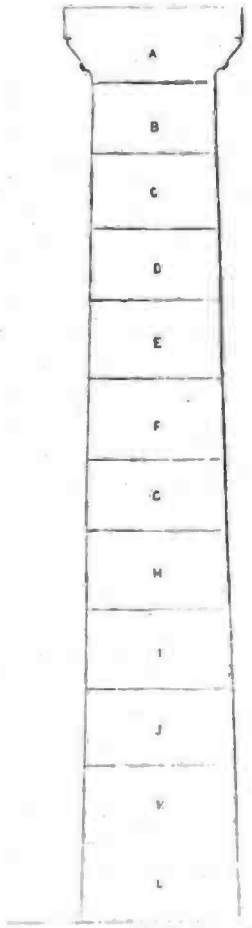
Sawyers are fully engaged at 10s. per hundred feet (super.) for gum or other hard wood; and at 7s. per hundred feet, for cedar or deal.

Building Materials.—Common building stone delivered in the city, for foundations or wall-work, 3s. 6d. to 5s. per dray load; freestone (white), squared and delivered, at 1s. per cubic foot; lime 5d. per bushel; river sand (for mortar), 1s. per cart-load, delivered; bricks, 25s. to 28s. per 1000, delivered; slate flagging, 4d. to 6d. per foot (super.); ditto roofing, 4l. 10s. per 1000; ridge tiles, 4d. each; joists, principals, purlings, &c., of gum or stringy bark, 6 inches by 2, are sold at 1½d. per foot run, and larger scantling in the same proportion; flooring boards, 7 inches by 1 inch, at 10s. per 100 feet run; battens, 12s. per 100 treble measure, being equal to 4s. per 100 feet run; Baltic deals are selling at the rate of 8d. per foot 9x3; inch board from ditto, at 3½d. per foot run. New South Wales cedar may be obtained in the log, or sawn, at the following general rates—namely, logs, at the rate of 2½d. per foot super. per inch; boards, 5d. to 9d. per foot super., according to breadth, quality, and condition.

MEASUREMENTS OF THE FALLEN BLOCKS OF A COLUMN OF THE PARTHENON.

In accordance with the request of a correspondent, made some time ago, Mr. Seales has favoured us with his measurements of the fallen blocks of a column of the peristyles of the Parthenon, in order to test the truth of the law of the entasis, communicated by Mr. Penrose to the Institute of Architects.*

All the measurements of the diameters are taken to the back of the flutes, in feet, inches, and tenths of an inch.



	Height.			Diameter at base.		
A (capital)	2°	10′	0″	4°	6′	7″
B	2	7	5	4	8	15
C	2	9	6	4	10	25
D	2	7	8	4	11	7
E	2	11	1	5	1	35
F	2	11	9	5	3	9
G	2	7	8	5	4	35
H	2	11	15	0	0	0
I	2	10	25	5	7	1
J	2	10	6	5	8	25
K (coarse wanting; not measured)	0	0	0	5	9	25
L	0	0	0	5	10	7

Height of K and L together, about 5 feet 8 in.

ART-UNION OF LONDON.

SCULPTURE COMPETITION.

Twenty-one pieces of sculpture have been submitted to the Committee of the Art-Union of London, in reply to their offered premium of 500*l.*, and are deposited in the concert-room of the Princess's theatre, in Oxford-street. The private view will take place on Monday, and subscribers and their friends will be admitted on the next and following days.

* See page 100, *ante*.

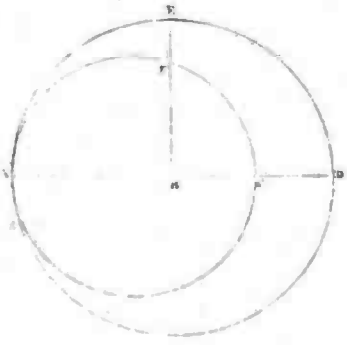
CONVERSION OF AREAS.

Sir,—As you have lately published many problems on the conversion of areas, I beg to forward you the inclosed. I will send you the solution of it in a few weeks if in the mean time you do not get a better one.

Yours very obediently,

June 23rd, 1846. R. S.

In the accompanying figure there are given the lines EF and CD (which meet when produced at right angles, at the centre B of the large circle) to find (geometrically), the diameter of a circle whose area shall be equal to the area of the space AEFDCA.



THE STAINED GLASS WINDOW IN ST. JAMES'S CHURCH, PICCADILLY.

The stained glass window in St. James's by Mr. Wailes is now fixed, and may be seen by all. In August last, we pointed out the mistake made by the committee in selecting a window of Gothic design and manner for an Italian Building.* In consequence of this, and the response our objections found in other quarters, considerable alterations were made by the artist, and no Gothic outlines appear in the window as now executed; the *vesica piscis* forms, and the foils are omitted, the borders altered, and the figures made to approximate to nature rather than in imitation of mediæval work. It has now a Byzantine rather than a Gothic character, and is less obtrusively objectionable than it would otherwise have been.

The window, as most persons know, is in two stories and six compartments. The principal compartment of the upper story contains the Transfiguration; that of the lower, the Crucifixion. In the other compartments are our Saviour praying while the disciples slept; the entombment; the resurrection, &c. Nearly 1,300*l.* were subscribed for the purpose, and as this sum is more than is required for the present window, the balance has been made the commencement of a fund, to defray the cost of filling all the other windows with stained glass likewise. However strongly we may have commented elsewhere on the proceedings of the committee, we cannot refuse them, and their honorary secretary in particular, Mr. Mayhew, praise for their zeal and good intentions.

By the way, those who visit the church should not fail to remark Gibbon's wonderful piece of carving, which adorns the chancel.

PROFESSOR DONALDSON'S CONVERSAZIONI.

On Tuesday and Wednesday evening last, Professor Donaldson received, at his house in Russell-square, the members of the Institute of Architects, and a body of distinguished visitors, and provided sumptuously for their entertainment mentally and bodily. The tables that were not filled with choice carvings groaned under the weight of a goodly supper, and antique vases and agate cups did more than divide attention with Roman punch.

An immense number of drawings were scattered about, some of them of great excellence: of which may be mentioned a collection of sketches and details from abroad, by Mr. Garling. Amongst other fine specimens of art, we particularly noticed a singularly good colossal head in bronze, of the Duke of Hamilton, by Mr. Campbell.

* See Vol. III., p. 307.

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